(2)

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Scientific Officer Code: 1142CS
Susan Chipman, Ph.D.
Office of Naval Research
800 N. Quincy Street
Arlington, VA 22217-5000

Dear Dr. Chipman:

Enclosed are three copies of the second quarterly report for grant N00014-91-J-1903 titled "BrainMap - A Database of Functional Neuroanatomy Derived From Human Brain Images". Sorry to be a little late with this report.
This week we reviewed the status of the BrainMap project and the enclosed report is for your information. If you have questions concerning this report please call me or Dr. Fox at 512-567-8100.

Sincerely,

Jack L. Lancaster, Ph.D.
Enclosures

cc: Peter Fox

BrainMap

A Database of Functional Neuroanatomy Derived From Human Brain Images

BrainMap Mac:

Our efforts during the third quarter were devoted wholly to the Macintosh version of BrainMap. The status of the four main components of BrainMap-Mac software are: (1) **Search Windows** (fully conceived, fully designed; awaiting SQL interface), (2) **SQL interface** (fully conceived; partly designed; not operational), (3) **Review Windows** (fully conceived; fully designed; awaiting SQL interface), and (4) **Report Generation** (partly conceived; partly designed; awaiting SQL interface). Software development is proceeding in a timely fashion, and at present we see no major problems with completing the project on time. Work on the SQL portion of BrainMap-Mac is now the primary focus of the project.

BrainMap-Mac:

Search Windows: We've polished the SuperCard user interface to include color (see enclosures). The design functionality of this software was described in the first quarterly report dated 16 Aug 91 & 14 Nov 91.

SQL Interface: We developed an entry form which will be used to record data from PET literature prior to keying into the database. We developed the initial version of the program to actually enter the data into the database. Additionally, we've expanded the SQL table structures to allow faster access to data (see enclosures). During the final quarter we will be testing a small database of 20 experiments to verify the SQL entry and query routines. Then we will complete the interface of SQL to Supercard to provide a convenient user interface. We are coding the SQL portion of BrainMap using Oracle database software. We have defined numerous SQL tables (see enclosure) and are currently in the process of developing data entry routines.

Review Windows: We've polished the SuperCard user interface to include color (see enclosures). The design functionality of this software was described in the first quarterly report dated 16 Aug 91 & 14 Nov 91.

Report Generation: Hardcopy output will rely heavily on the report generation capabilities of the SQL software, but will have a custom designed interface allowing users to select a variety of report formats. This will be developed once the integrity of BrainMap-Mac is fully tested.

BrainMap-SQL:

The Oracle applications for entry and report generation are being developed to run on either Mac or IBM RISC series computers. We recently acquired a license for Oracle for the Sun Sparcstation 2 series of computers. Our plans are to ultimately develop the SQL portion to work totally on the Mac and then test a combination system which uses the Mac for the user interface and the Sun Sparc 2 for actual SQL database operations. We hope to have software which can be run either in combination or independently on either computer system. We will concentrate more effort on the unix version of BrainMap after we have a functional SQL version running on the Macintosh.

General:

We are refining the outlines for the 55 graphical images of the brain which are part of BrainMap. We are developing outlines with increased detail using images from the Talairach atlas. We have enlisted the aid of high school, college, and graduate students to complete this time-consuming task in a timely fashion. Additionally, we have enlisted the aid of another neurologist from our campus to help with terminology to use in classification of brain locations by anatomical terms. The long-term plan is to develop atlas coordinates which correspond to the anatomical locations.

BrainMap

Search Criteria

Clear Criteria

Reference | And | Or | Not | Clear | Edit

Location
Behavior
Protocol

Categories | And | Or | Not | Clear | Edit

Categories | And | Or | Not | Clear | Edit

Categories | And | Or | Not | Clear | Edit

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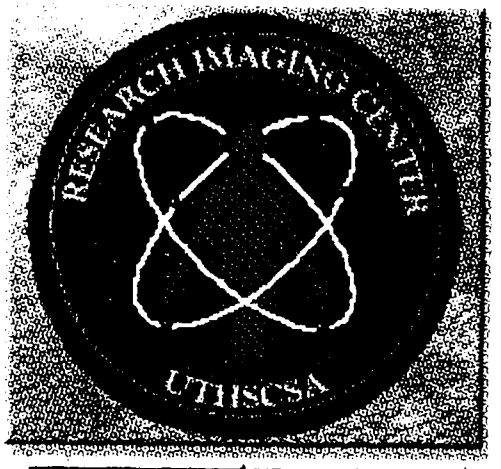

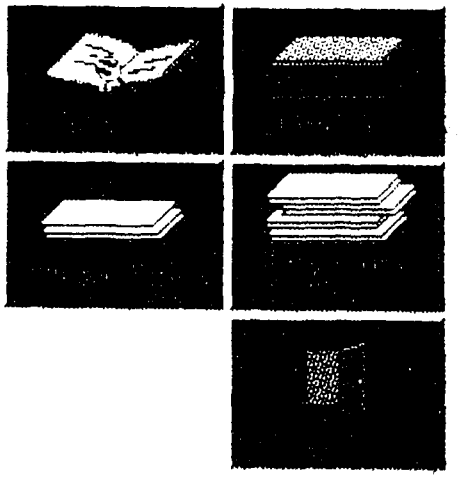

Search Summary

Papers | # Exp | # Pts

Paper #: _____ Experiment #: _____ Keywords: _____

	X	Y	Z	Magnitude	Lobar Anatomy	Putative Function	Putative Cytoarchitectonics
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2.							
3.							
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15.							

Behavioral Domain: _____ (use supplied outline)

Task Descriptor: _____ (use supplied list)

Control Stimulus: _____

Control Response: _____

Control Instructions: _____

Test Stimulus: _____

Test Response: _____

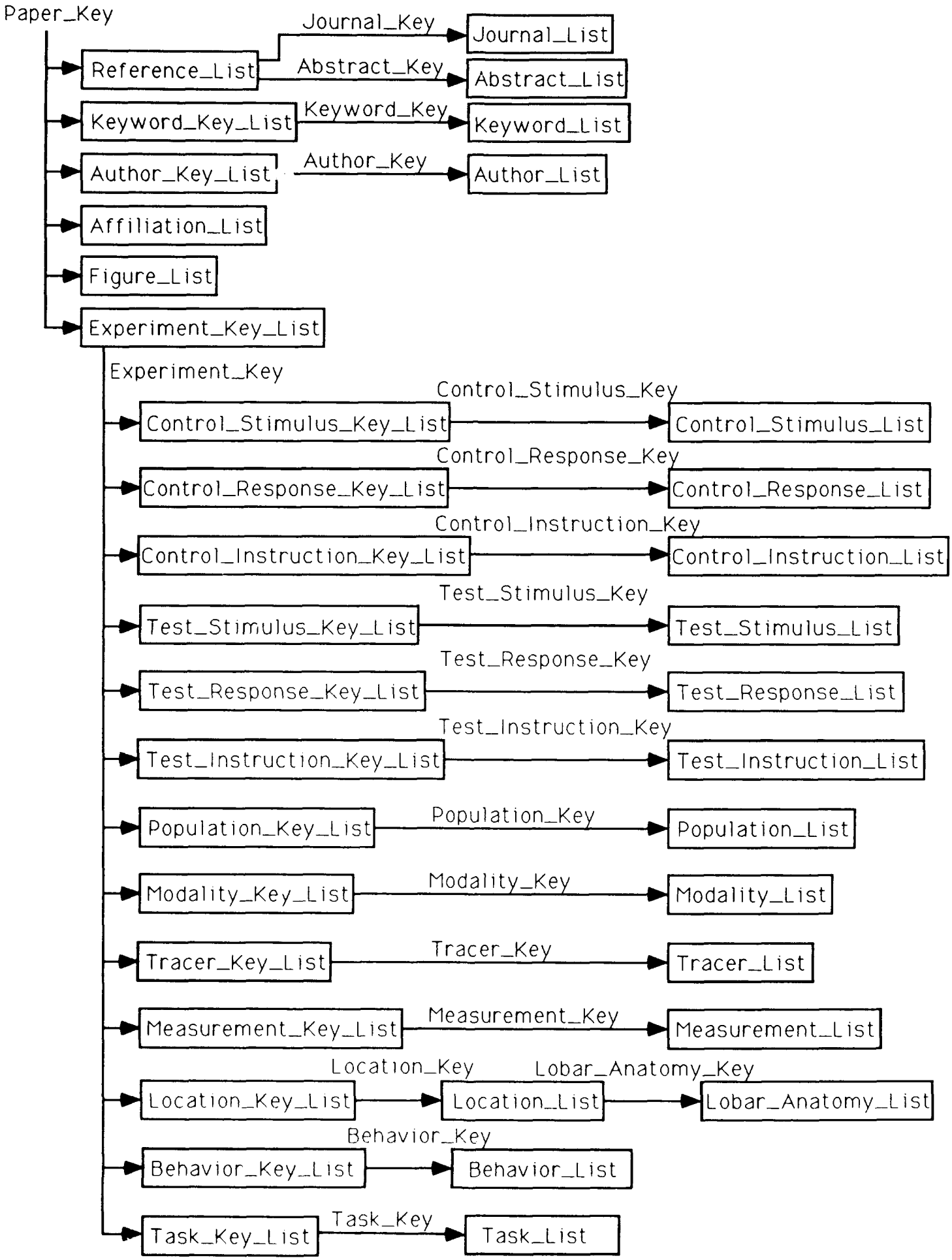
Test Instructions: _____

Population: _____

Tracer: _____

Modality: _____

Measurement: _____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Task_List